



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5 CHICAGO REGIONAL LABORATORY  
536 SOUTH CLARK STREET  
CHICAGO, ILLINOIS 60605



**Date:** 2/28/2014  
**Subject:** Review of Region 5 Data for Veolia, Sauget, IL.  
**From:** Kathleen Swan, Analyst *KS*  
Region 5 Chicago Regional Laboratory  
**To:** RCRA, LCD, US EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

The data being transmitted under this cover memo successfully passed CRL's internal data review procedures as documented in our current Quality Management Plan (QMP) and appropriate Standard Operating Procedures (SOPs). Please be aware that CRL does not perform data validation which is based on your data quality objectives. This function must be performed independently of the laboratory generating the data.

Results in this report represent only the samples analyzed.

Please have the U.S. EPA Project Manager/Officer call the CRL Sample Coordinator at (312) 353-0375 for any comments or questions.

Attached are Results for: Veolia, Sauget, IL.

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Data Management Coordinator and Date Received

Date Transmitted: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Analyses included in this report:**

Metals full ICP (S), axial



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Phone:(312)353-8370 Fax:(312)886-2591



RCRA, LCD, US EPA Region 5  
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Chicago IL, 60604

Project: Veolia, Sauget, IL.  
Project Number: [none]  
Project Manager: Todd Ramaly

**Reported:**  
Jan-17-14 09:10

## ANALYSIS CASE NOTES

### General Information

Seven (7) soil-like samples arrived in laboratory October 24, 2013 for Metals full ICP (S), axial analysis. Arsenic, beryllium, cadmium, chromium, and lead were requested. Analyst K Swan 312 353 9071. All holding times were met. Metals 004 R7.2-PI01 which states that solid samples require no preservation is in effect. Metals 025 R7.0 PI04 which refers to sample preparation date is in effect.

It is noted that since samples are first dried and ground before analysis for metals, results are reported in mg/kg based on the dried weight of each sample. If results based on wet weight are needed, this can be calculated using the percent solids results previously submitted by the A&I group for these samples. A spreadsheet of the percent solid results as previously reported by A&I are attached for reference.

### Sample Analysis and Results

Sample preparation was performed using CRL SOP Metals 025, Revision No. 7, EPA sample preparation procedure 200.2 and analysis was performed using CRL SOP Metals Method 004, Revision No. 7.2, EPA ICP Method 200.7.

Due to spectral interference in the samples, arsenic is reported at 5 mg/kg, beryllium is reported at 0.6 mg/kg, and cadmium is reported at 0.8 mg/kg.

### Quality Control

All quality control (QC) audits were within CRL limits or did not result in qualification of the data.

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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
VS2-CS-13B-Comp2C	1310005-01	Soil	Oct-10-13 15:30	Oct-24-13 16:00
VS3-CS-13B-Comp2C	1310005-02	Soil	Oct-17-13 15:45	Oct-24-13 16:00
VS2-Pb-13B-Grab1	1310005-05	Soil	Oct-10-13 12:30	Oct-24-13 16:00
VeoliaS4-Metals-Box	1310005-13	Soil	Oct-23-13 15:06	Oct-24-13 16:00
VeoliaS4-Metals-Pit	1310005-14	Soil	Oct-23-13 15:07	Oct-24-13 16:00
VeoliaS4-DF-Box	1310005-18	Soil	Oct-23-13 15:36	Oct-24-13 16:00
VeoliaS4-DF-Pit	1310005-19	Soil	Oct-23-13 15:37	Oct-24-13 16:00



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## Metals by ICP using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

VS2-CS-13B-Comp2C (1310005-01) Soil Sampled: Oct-10-13 15:30 Received: Oct-24-13 16:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Arsenic	U			5.5	mg/kg	1	B402007	Feb-11-14	Feb-11-14
Beryllium	0.86			0.66	"	"	"	"	"
Cadmium	U			0.88	"	"	"	"	"
Chromium	25			0.55	"	"	"	"	"
Lead	17			1.7	"	"	"	"	"

VS3-CS-13B-Comp2C (1310005-02) Soil Sampled: Oct-17-13 15:45 Received: Oct-24-13 16:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Arsenic	U			5.7	mg/kg	1	B402007	Feb-11-14	Feb-11-14
Beryllium	0.77			0.68	"	"	"	"	"
Cadmium	U			0.91	"	"	"	"	"
Chromium	21			0.57	"	"	"	"	"
Lead	16			1.7	"	"	"	"	"

VS2-Pb-13B-Grab1 (1310005-05) Soil Sampled: Oct-10-13 12:30 Received: Oct-24-13 16:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Arsenic	U			890	mg/kg	50	B402007	Feb-11-14	Feb-11-14
Beryllium	U			110	"	"	"	"	"
Cadmium	310			140	"	"	"	"	"
Chromium	U			89	"	"	"	"	"
Lead	310000			270	"	"	"	"	"

VeoliaS4-Metals-Box (1310005-13) Soil Sampled: Oct-23-13 15:06 Received: Oct-24-13 16:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Arsenic	U			5.4	mg/kg	1	B402007	Feb-11-14	Feb-11-14
Beryllium	U			0.65	"	"	"	"	"
Cadmium	U			0.86	"	"	"	"	"
Chromium	52			0.54	"	"	"	"	"
Lead	97			1.6	"	"	"	"	"



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**Metals by ICP using EPA 200.7 (modified)**  
**US EPA Region 5 Chicago Regional Laboratory**

VeoliaS4-Metals-Pit (1310005-14) Soil Sampled: Oct-23-13 15:07 Received: Oct-24-13 16:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Arsenic	U			5.4	mg/kg	1	B402007	Feb-11-14	Feb-11-14
Beryllium	U			0.65	"	"	"	"	"
Cadmium	U			0.86	"	"	"	"	"
Chromium	45			0.54	"	"	"	"	"
Lead	44			1.6	"	"	"	"	"

VeoliaS4-DF-Box (1310005-18) Soil Sampled: Oct-23-13 15:36 Received: Oct-24-13 16:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Arsenic	U			5.2	mg/kg	1	B402007	Feb-11-14	Feb-11-14
Beryllium	U			0.62	"	"	"	"	"
Cadmium	U			0.83	"	"	"	"	"
Chromium	44			0.52	"	"	"	"	"
Lead	29			1.6	"	"	"	"	"

VeoliaS4-DF-Pit (1310005-19) Soil Sampled: Oct-23-13 15:37 Received: Oct-24-13 16:00

Analyte	Result	Flags / Qualifiers	MDL	Limit	Units	Dilution	Batch	Prepared	Analyzed
Arsenic	U			5.5	mg/kg	1	B402007	Feb-11-14	Feb-11-14
Beryllium	U			0.66	"	"	"	"	"
Cadmium	U			0.87	"	"	"	"	"
Chromium	87			0.55	"	"	"	"	"
Lead	51			1.6	"	"	"	"	"



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## Metals by ICP using EPA 200.7 (modified) - Quality Control US EPA Region 5 Chicago Regional Laboratory

### Batch B402007 - Hot Block Digestion

#### Blank (B402007-BLK1)

Prepared & Analyzed: Feb-11-14

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	U			5.0	mg/kg						
Beryllium	U			0.60	"						
Cadmium	U			0.80	"						
Chromium	U			0.50	"						
Lead	U			1.5	"						

#### LCS (B402007-BS1)

Prepared & Analyzed: Feb-11-14

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	211.0			5.0	mg/kg	200.0		106	85-115		
Beryllium	5.018			0.60	"	5.000		100	85-115		
Cadmium	106.4			0.80	"	100.0		106	85-115		
Chromium	539.3			0.50	"	500.0		108	85-115		
Lead	535.2			1.5	"	500.0		107	85-115		

#### Duplicate (B402007-DUP1)

Source: 1310005-01

Prepared & Analyzed: Feb-11-14

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	4.336			5.5	mg/kg		2.833			41.9	20
Beryllium	0.8576			0.66	"		0.8564			0.137	20
Cadmium	0.3167			0.88	"		0.4076			25.1	20
Chromium	24.16			0.55	"		25.13			3.97	20
Lead	16.49			1.6	"		16.97			2.86	20

#### Matrix Spike (B402007-MS1)

Source: 1310005-01

Prepared & Analyzed: Feb-11-14

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	185.6			5.3	mg/kg	213.8	2.833	85.5	80-120		
Beryllium	5.458			0.64	"	5.344	0.8564	86.1	80-120		
Cadmium	93.93			0.86	"	106.9	0.4076	87.5	80-120		
Chromium	498.0			0.53	"	534.4	25.13	88.5	80-120		
Lead	490.0			1.6	"	534.4	16.97	88.5	80-120		

#### Reference (B402007-SRM1)

Prepared & Analyzed: Feb-11-14



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**Metals by ICP using EPA 200.7 (modified) - Quality Control**  
**US EPA Region 5 Chicago Regional Laboratory**

**Batch B402007 - Hot Block Digestion**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Arsenic	269.9			7.2	mg/kg	266.1		101	80-120		
Beryllium	178.0			0.86	"	184.0		96.8	80-120		
Cadmium	292.9			1.1	"	282.1		104	80-120		
Chromium	144.1			0.72	"	140.2		103	80-120		
Lead	198.7			2.1	"	194.3		102	80-120		



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**Notes and Definitions**

U Not Detected  
NR Not Reported

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Recap 1310005 Veolia Metals full ICP (S) % solids by A&I

PROJECT	SAMPLENAME	LABSAMPID	MATRIX	SAMPDATE	ANADATE	METHODCODE	UNITS	PSOLIDS	ANOTE
Veolia, Sauget,IL.	DRAFT: VS2-CS-13B-Comp2C	1310005-01	Soil	10/10/2013 15:30:00	11/05/2013 00:00:00	Total % Dry Solids 105C	%	69.4	J
Veolia, Sauget,IL.	DRAFT: VS3-CS-13B-Comp2C	1310005-02	Soil	10/17/2013 15:45:00	11/05/2013 00:00:00	Total % Dry Solids 105C	%	72.1	J
Veolia, Sauget,IL.	DRAFT: VS2-Pb-13B-Grab1	1310005-05	Soil	10/10/2013 12:30:00	11/19/2013 00:00:00	Total % Dry Solids 105C	%	98.6	J
Veolia, Sauget,IL.	DRAFT: VeoliaS4-Metals-Box	1310005-13	Soil	10/23/2013 15:06:00	11/05/2013 00:00:00	Total % Dry Solids 105C	%	92.7	
Veolia, Sauget,IL.	DRAFT: VeoliaS4-Metals-Pit	1310005-14	Soil	10/23/2013 15:07:00	11/05/2013 00:00:00	Total % Dry Solids 105C	%	81.1	
Veolia, Sauget,IL.	DRAFT: VeoliaS4-DF-Box	1310005-18	Soil	10/23/2013 15:36:00	11/05/2013 00:00:00	Total % Dry Solids 105C	%	91.7	
Veolia, Sauget,IL.	DRAFT: VeoliaS4-DF-Pit	1310005-19	Soil	10/23/2013 15:37:00	11/05/2013 00:00:00	Total % Dry Solids 105C	%	76.2	